

UNITED STATES OF AMERICA
POSTAL REGULATORY COMMISSION
WASHINGTON, D.C. 20268-0001

Rate Adjustment Due to Extraordinary
or Exceptional Circumstances

Docket No. R2013-11

PRESIDING OFFICER'S INFORMATION REQUEST NO. 4

(Issued October 29, 2013)

To clarify the Postal Service request for rate adjustment due to extraordinary or exceptional circumstances, filed September 26, 2013, the Postal Service is requested to provide written responses to the following questions. Answers should be provided no later than November 5, 2013.

Questions 1-2 refer to the Further Statement of witness Thress.

1. Please refer to the Further Statement of witness Thress, Technical Appendix II. Please also refer to Table 2 on page 8.
 - (a) On page II-9 of the Technical Appendix II you state: "The Standard Regular mail equation includes two linear trend variables. The first of these is a simple linear time trend over its full sample period." What is the "full sample period" used to develop the time trend?
 - (b) In view of the continuing and substantial decline in the volume of First-Class Mail for over a period of 6 years, why is the Trends factor (presented on page 8 of Table 2) positive?
 - (c) Since population growth is already contained in the model as an independent factor, does the Trends factor reflect the combined effect of several other variables (e.g., household formation, number of new

households, etc.) similar to the Macro Economy and Recession-Induced Factor? If not, please explain.

- (d) If part (c) is answered affirmatively, please list the variables that constitute the Trends Factor.

- 2. This question concerns the advances in communications using the Internet that occurred during 2004-2010, including the launching and widespread adoption of wireless broadband, smartphones, tablet computers, and social media channels; the increasing market penetration of broadband Internet service; and growing percentage of American adults who used the Internet to purchase goods, pay bills, or engage in other commercial transactions.

- (a) Please explain how the econometric demand equations estimated in this docket distinguish between (1) the effects of the 2007-2009 recession and (2) technological and social changes cited above. If your response relies on any data or analyses not previously produced in this Docket, please produce them.
- (b) Please describe the characteristics of explanatory variables that reflect the effects of the 2007-2009 recession and the characteristics of explanatory variables that reflect the effects of technological innovation and resulting social trends during the 2004-2010 period.

Questions 3-6 refer to the Further Statement of witness Thress, Technical Appendix II and Library References USPS-R2010-4R-9 and USPS-R2010-4R-10.

- 3. Please refer to the Excel file RCFDATA of Library Reference USPS-R2010-4R-9.
 - (a) Please confirm that the file RCFDARA.xlsx does not contain any of the linear time trends or intervention variables described in the Technical Appendix II.
 - (b) If part (a) is confirmed, please provide a library reference with a file that includes the complete quarterly data series corresponding to all linear time

trends and all intervention variables used or created by all demand equations that have been filed for Docket No. R2013-11. If such file is already included in the existing library references, please provide the name of this library reference, the corresponding file and tab.

- (c) If part (a) is not confirmed, please indicate the tabs and cells of RCFDARA.xlsx that contain the requested information.
 - (d) Please confirm that different linear trends and intervention variables are created dynamically during execution of the regression programs that are included in USPS-R2010-4R-9. If not confirmed, please explain.
4. Please refer to Library References USPS-R2010-4R-9 and USPS-R2010-4R-10.
- (a) Please provide the stationarity tests you performed while developing the time series dataset for demand equations. As part of your response, please describe the techniques you applied to develop the stationary datasets to be used for estimating the demand equations.
 - (b) Please refer to the output from the econometric demand equations presented in Library Reference USPS-R2010-4R-9, folder Public Econometrics, file “out_p.txt.” Please provide the interpretation of the results of the listed stationarity tests and indicate for what class(es) of mail demand equations include non-stationary time series. If you include any non-stationary time series data in your calculations, please explain in detail how non-stationary variables were treated in the demand equation estimation.
 - (c) For all variables used in demand equations for First-Class Single-Piece letters and cards (or First-Class Single-Piece letters, cards and flats), please explain which time series are stationary and which are non-stationary at 5 and 10 percent significance levels.
 - (d) In Library Reference USPS-R2010-4R-9, folder Public Econometrics, file out_p.txt, you provide an R-squared value for the regression demand equation estimated for First-Class Single-Piece letters, cards and flats

which is almost 0.998. Please explain whether such a high R-squared value could be due to non-stationary variables in the model.

5. Please refer to Library Reference USPS-R2010-4R-9:
 - (a) Please state whether any non-positivity constraint was imposed on any own price elasticity.
 - (b) Please explain whether without imposing a non-positivity condition, the estimated own price elasticity becomes positive, and, if so, please provide the value of this positive own price elasticity.
 - (c) If part (a) above was answered in the affirmative, please explain fully whether this imposition of a non-positivity condition might econometrically push the estimated elasticity toward or close to zero.
 - (d) Please explain in detail whether the reason for a positive own price elasticity without any condition could be due to missing variable(s) (such as e-substitution variables).
6. Please refer to the “Narrative Explanation of Econometric Demand Equations for Market Dominant Products Filed with Postal Regulatory Commission on January 20, 2012” (filed on July 2, 2012). On pages 14-15, the Postal Service states: To “better measure the increasing depth of Internet use, the Postal Service’s methodology for modeling Internet and other electronic diversion has changed somewhat for the demand equations filed with the Postal Regulatory Commission on January 20, 2012. For the demand equations for domestic mail, diversion is no longer modeled via explicit Internet variables, but, instead, is measured through a series of simple linear time trends that start at various times within the sample periods of which the Postal Service’s demand equations are estimated.”
 - (a) Please confirm that the demand equations filed in Docket No. R2013-11 continue with the methodology described in the quote above of using

trends in place of explicit Internet variables to measure electronic diversion. If not confirmed, please explain fully.

- (b) Did the development of the demand equations filed in Docket No. R2013-11 include the exploration of any explicit Internet variables as candidate explanatory variables? If so, please describe the variables considered, the statistical tests performed, and the reasoning that led to the exclusion of these variables from the final demand equations. As part of your response, please produce all data series generated for such explicit Internet variables, if applicable.
- (c) Are there any explicit Internet variables for measuring electronic diversion used for developing demand equations before 2012 that were not considered in Docket No. R2013-11? If so, please describe all such variables and provide the relevant data series. If the complete data series are not available, please provide whatever versions of the explicit variables data series that were used for developing demand equations prior to 2012 and identify the original source for the data.

Questions 7-9 refer to the Further Statement of witness Thress, Technical Appendix II and the “Narrative Explanation of Econometric Demand Equations for Market Dominant Products as of November 2012” filed with the Postal Regulatory Commission on July 1, 2013 (July 1 Narrative).

- 7. Please refer to the July 1 Narrative and the Further Statement of witness Thress.
 - (a) The First-Class Workshared Letters, Cards, and Flats model filed on January 22, 2013 (see page 34) includes the last linear trend starting at 2008Q3. However, in Mr. Thress's statement (Technical Appendix, at page II-6), the last trend is described as having started in 2008Q1. Please explain this apparent discrepancy and explain what factors contribute to these differences.

- (b) For other mail categories (aside from workshared First-Class Letter Mail), please identify the locations in the July 1 Narrative and Mr. Thress's "Further Statement" that have different starting dates for trends. For all different trend starting dates identified, please explain such apparent discrepancies including the factors contributing to these differences.
 - (c) Please provide the slopes of the "three linear trend lines, which start in 1993Q4, 2002Q4, and 2007Q4" mentioned on page 15 of the July 1 Narrative at 15 that were used to estimate mail volume diversion in your First-Class Single-Piece demand equation(s).
 - (d) Please provide the three slopes of the three linear trend lines referred to in part (c) without the use of the "filtered macroeconomic data" technique described on pages 7-8 of the July 1 Narrative.
- 8. Please refer to the July 1 Narrative at pages 9-13. The July 1 Narrative explains that "Intervention Analysis" as this term is used on page 9 includes "trends."
 - (a) Are the linear time trends for Internet diversion considered to be an "Intervention Analysis"? If not, please explain.
 - (b) If your response to part (a) is in the affirmative, was this linear trend a result derived from using a transfer function for Single-Piece First-Class Letter Mail and other products which allows for all types of outcomes?
 - (c) If your response to part (b) is in the affirmative, why are they distinguished in a separate section of the Narrative as trends instead of Intervention in the Narrative? If your response to part (b) is in the negative, please explain the difference between trends and Intervention Analysis.
- 9. Please refer to Library Reference USPS-R2010-4R-9 and the "Narrative Explanation of Econometric Demand Equations for Market Dominant Products as of November 2002" filed with the Postal Regulatory Commission on July 1, 2013 (July 1 Narrative).

- (a) Please explain why in Docket No. R2013-11 you estimate the combined elasticity of First-Class Single-Piece Letters, Cards and Flats in place of the traditional use of separate elasticities for (1) letters and cards, (2) flats, and (3) parcels estimated in the model described in the July 1 Narrative on pages 26-32.
 - (b) Please provide a comparative table that shows elasticities for First-Class Single-Piece letters and cards, flats and parcels calculated using the method described in the July 1 Narrative and using the combined method implemented in Docket No. R2011-13.
- 10. Please refer to Library Reference USPS-R2010-4R-2 - First-Class Mail Worksheets. Please confirm that the value in Excel Workbook WP-FCM-R2010-4R, tab "DVD Mail," cell 9D, should be \$0.441. If not confirmed, please explain.

Ruth Y. Goldway
Presiding Officer